IN THE CLAIMS:

Claims 1-20 (Canceled)

21. (Previously Presented) A field programmable router application specific integrated circuit, comprising:

a plurality of media access controllers and a plurality of programmable logic core blocks (MP-blocks), including:

a media access controller that transmits and receives network data via a physical interface device, and

a programmable logic core having an array of dynamically configurable arithmetic logie units, said programmable logic core interfaces with said media access controller and implements at least one application level funetion capable of generating meta-data;

an interconnect multiplexer (MUX) coupled to each of said plurality of MP-blocks and configured to switch said network data between ones of said plurality of MP-blocks; and

a master subsystem configured to receive said meta-data from each of said plurality of MP-blocks and control said interconnect MUX to route said network data.

22. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said programmable logic core may be programmed while said at least one application level function is executing.

23. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said master subsystem further includes a master programmable logic core having an array of dynamically configurable arithmetic logic units, said master programmable logic core configured to receive said meta-data and implement at least one router application level function.

24. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said master subsystem is further configured to receive programming instructions from a host system.

25. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said master subsystem is further configured to transmit said meta-data or network data to a host system.

26. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said master subsystem is capable of programming eaeh of said plurality of MP-blocks based upon said meta-data.

27. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said master subsystem is capable of programming each of said plurality of MP-blocks based upon content of said network data.

28. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said at least one router application level function is selected from the group consisting of:

a content based routing,

a protocol de-packetization,

a protocol stack control, and

a load balancing.

29. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said at least one application level function is selected from the group consisting of:

an adaptive pulse code modulation (ADPCM),

an Internet Protocol encryption,

an Internet Protocol decryption,

a network-address translation (NAT),

a validation of packets,

a protocol packetization, and

a quality-of-service metrics.

30. (Original) The field programmable router application specific integrated circuit as recited in Claim 21 wherein said programmable logic core includes a management interface configured to control and manage said media access controller.

31. (Previously Presented) A field programmable video phone application specific integrated circuit, comprising:

a first, second and third media access controller and a plurality of programmable logic core blocks (MP blocks), including:

a media access controller that transmits and receives network data via a physical interface device, and

a programmable logic core having an array of dynamically configurable arithmetic logic units, said programmable logic core interfaces with said media access controller and implements at least one application level function capable of generating meta-data;

an interconnect multiplexer (MUX) coupled to said first, second and third MP-blocks and configured to switch said network data between said first MP-block and said second and third MP-blocks; and

a master subsystem configured to receive said meta-data, control said interconnect MUX to route at least a portion of said network data containing audio between said first MP-block and said second MP-block, and control said interconnect MUX to route at least a portion of said network data containing video between said first MP-block and said third MP-block.

32. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said first MP-block is further configured to split said network data into an audio portion and a video portion, and recombine said audio portion and video portion.

33. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said second MP-block is further configured to compress and decompress audio.

34. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said third MP-block is further configured to compress and decompress video.

35. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said programmable logic core may be programmed while said at least one application level function is executing.

36. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said master subsystem further includes a master programmable logic core having an array of dynamically configurable arithmetic logic units, said master programmable logic core receives said meta-data and implements at least one video phone application level function.

37. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said master subsystem is further configured to receive programming instructions from a host system.

38. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said master subsystem is further configured to transmit said meta-data or network data to a host system.

39. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said master subsystem is capable of programming each of said first, second and third MP-blocks based upon said meta-data or upon content of said network data.

40. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said at least one video phone application level function is selected from the group consisting of:

a content based routing,

a protocol de-packetization, and

a H.323 protocol stack control.

41. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said at least one application level function is selected from the group consisting of:

an adaptive pulse code modulation (ADPCM),

an encryption/decryption,

a video compression/decompression,

a network-address translation (NAT),

a validation of packets,

a protocol packetization, and

a protocol de-packetization.

42. (Original) The field programmable video phone application specific integrated circuit as recited in Claim 31 wherein said programmable logic core includes a management interface configured to control and manage said media access controller.

Claims 43-44 (Canceled)